

FORM PT01449
(REV. 8-83)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

2574.008US0

SERIAL NO.

09/344,226

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

APPLICANT

Ronald H. Chiarello et al.

FILED

June 25, 1999

GROUP

1626

U. S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
Yo	A1	2 1 5 3 0 5 9	4/4/39	Eckert et al.		
	A2	2 2 4 2 5 7 2	5/20/41	Eckert et al.		
	A3	3 8 2 2 2 7 0	7/2/74	Reynolds		
	A4	3 8 4 9 0 6 5	11/19/74	Schmeidl		
	A5	3 9 3 2 4 1 5	1/13/76	Reynolds		

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DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANS.? (YES/NO)
B1	9 6 / 3 6 7 2 9	11/21/96	WIPO		Yes
B2	0 2 5 1 7 8 6	11/30/94	EPO		Yes

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent pages, Etc.)

Yo	C1	Bauman et al., "A New Method for Fluorescence Microscopical Localization of Specific DNA Sequences by <i>in situ</i> Hybridization of Fluorochrome-labelled RNA," <i>Exp. Cell Res.</i> , 128, pp. 485-490, 1980. ✓
	C2	Belkum and Niesters, "Nucleic Acid Amplification and Related Techniques in Microbiological Diagnostics and Epidemiology," <i>Cell. Mol. Biol.</i> , 41 (5), pp. 615-623, 1995. ✓
	C3	Guatelli et al., "Isothermal, <i>in vitro</i> Amplification of Nucleic Acids by a Multienzyme Reaction Modeled after Retroviral Replication," <i>Proc. Natl. Acad. Sci. USA</i> , 87, pp. 1874-1878, 1990. ✓
	C4	Haugland, Richard P., "Long-wavelength Dyes," Chapter 1, Section 1.6 in <i>Handbook of Fluorescent Probes and Research Chemicals</i> , 6 th Edition, pp. 29-35, 1996. ✓
	C5	Haugland, Richard P., "Chemically Modified Nucleotides, Oligonucleotides and Nucleic Acids," Chapter 8, Section 8.2 in <i>Handbook of Fluorescent Probes and Research Chemicals</i> , 6 th Edition, pp. 157-161, 1996. ✓
	C6	Haugland, Richard P., part of "Enzymes, Enzyme Substrates and Enzyme Inhibitors," Chapter 10 in <i>Handbook of Fluorescent Probes and Research Chemicals</i> , 6 th Edition, pp. 201-229, 1996. ✓

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*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
YO ↓	A6	4 0 0 5 0 9 2	1/25/77 Reynolds			
	A7	4 2 9 0 9 5 5	9/22/81 Cincotta et al.			
	A8	4 3 3 6 1 8 6	6/22/82 Gargiulo et al.			
	A9	4 4 0 1 7 9 6	8/30/83 Itakura			
	A10	4 4 1 5 7 3 2	11/15/83 Caruthers et al.			
FOREIGN PATENT DOCUMENTS						
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANS.? (YES/NO)
YO	B3	0 2 5 2 6 8 3	1/13/88 EPO			Yes
OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent pages, Etc.)</i>						
YO	C7	Heid et al., "Real Time Quantitative PCR," <i>Genome Research</i> , 6, pp. 986-994, 1996. ✓				
	C8	Holland et al., "Detection of Specific Polymerase Chain Reaction Product by Utilizing the 5' → 3' Exonuclease Activity of <i>Thermus aquaticus</i> DNA Polymerase," <i>Proc. Natl. Acad. Sci. USA</i> , 88, pp. 7276-7280, 1991. ✓				
	C9	Hung et al., "Comparison of Fluorescence Energy Transfer Primers with Different Donor-acceptor Dye Combinations," <i>Analytical Biochemistry</i> , 255, pp. 32-38, 1998. ✓				
	C10	Hung et al., "Energy Transfer Primers with 5- or 6-Carboxyrhodamine-6G as Acceptor Chromophores," <i>Analytical Biochemistry</i> , 238, pp. 165-170, 1996. ✓				
	C11	Ioffe and Otten, "Studies in the Field of Rhodamine Dyes and Compounds Related to Them: XII. Diacetyl Derivatives of Rhodamine and Rhodol; The Structure of the Colorless Forms of Fluorane Dyes," trans. from <i>Zhurnal Organicheskoi Khimii</i> , 1 (2), pp. 336-339, February 1965, in <i>Journal of Organic Chemistry of the USSR</i> , 1 (2), pp. 326-329, February 1965. ✓				
	C12	Ioffe and Otten, "Studies in the Field of Rhodamine Dyes and Compounds Related to Them: XIII. The Structure of the Colored Forms of Rhodamine and Rhodol," transl. from <i>Zhurnal Organicheskoi Khimii</i> , 1 (2), pp. 340-343, February 1965, in <i>Journal of Organic Chemistry of the USSR</i> , 1 (2), pp. 330-332, February 1965. ✓				
↓	C13	Ioffe and Otten, "Studies in the Field of Rhodamine Dyes and Compounds Related to Them: XIV. Interconversion of the Colorless and Colored Forms of Rhodamine and Rhodol," translated from <i>Zhurnal Organicheskoi Khimii</i> , 1 (2), pp. 343-346, February 1965, in <i>Journal of Organic Chemistry of the USSR</i> , 1 (2) pp. 333-336, February 1965. ✓				
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*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
Y0	A11	4 5 5 7 8 6 2	12/10/85	Mangel et al.		
	A12	4 6 4 7 6 7 5	3/3/87	Mayer et al.		
	A13	4 6 6 8 7 7 7	5/26/87	Caruthers et al.		
	A14	4 6 8 3 1 9 5	7/28/87	Mullis et al.		
	A15	4 6 8 3 2 0 2	7/28/87	Mullis		

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Y0	C14	Köster et al., "N-Acyl Protecting Groups for Deoxynucleosides: A Quantitative and Comparative Study," <i>Tetrahedron</i> , 37, pp. 363-369, 1981. ✓
	C15	Lawrence et al., "Sensitive, High-Resolution Chromatin and Chromosome Mapping In Situ: Presence and Orientation of Two Closely Integrated Copies of EBV in a Lymphoma Line," <i>Cell</i> , 52, pp. 51-61, 1988. ✓
	C16	Lee et al., "DNA Sequencing with Dye-labeled Terminators and T7 DNA Polymerase: Effects of Dyes and dNTPs on Incorporation of Dye-terminators and Probability Analysis of Termination Fragments," <i>Nucleic Acids Research</i> , 20 (10), pp. 2471-2483, 1992. ✓
	C17	Livak et al., "Oligonucleotides with Fluorescent Dyes at Opposite Ends Provide a Quenched Probe System Useful for Detecting PCR Product and Nucleic Acid Hybridization," <i>PCR Methods and Applications</i> , 4, pp. 357-362, 1995. ✓
	C18	Morré et al., "RNA Amplification by Nucleic Acid Sequence-based Amplification with an Internal Standard Enables Reliable Detection of <i>Chlamydia trachomatis</i> in Cervical Scrapings and Urine Samples," <i>J. Clin. Microbiol.</i> , 34, (12), pp. 3108-3114, 1996. ✓
	C19	Mullah and Andrus, "Automated Synthesis of Double Dye-labeled Oligonucleotides using Tetramethyl-rhodamine (TAMRA) Solid Supports," <i>Tetrahedron Letters</i> , 38 (33), pp. 5751-5754, 1997. ✓
	C20	Murakami et al., "Fluorescent-labeled Oligonucleotide Probes: Detection of Hybrid Formation in Solution by Fluorescence Polarization Spectroscopy," <i>Nucleic Acids Research</i> , 19 (15), pp. 4097-4102, 1991. ✓

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*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
Y0	A16	4 7 1 1 9 5 5	12/8/87	Ward et al.		
	A17	4 8 2 8 9 7 9	5/9/89	Klevan et al.		
	A18	4 8 6 8 1 0 5	9/19/89	Urdea et al.		
	A19	4 9 6 5 3 4 9	10/23/90	Woo et al.		
	A20	5 1 7 5 2 6 9	12/29/92	Stavrianopoulos		

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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent pages, Etc.)

Y0	C21	Nazarenko et al., "A Closed Tube Format for Amplification and Detection of DNA Based on Energy Transfer," <i>Nucleic Acids Research</i> , 25 (12), pp. 2516-2521, 1997. ✓
	C22	Pinkel et al., "Fluorescence in situ Hybridization with Human Chromosome-specific Libraries: Detection of Trisomy 21 and Translocations of Chromosome 4," <i>Proc. Natl. Acad. Sci. USA</i> , 85, pp. 9138-9142, 1988. ✓
	C23	Rudkin and Stollar, "High Resolution Detection of DNA-RNA Hybrids in situ by Indirect Immunofluorescence," <i>Nature</i> , 265, pp 472-473, 1977. ✓
	C24	Sanger et al., "Cloning in Single-stranded Bacteriophage as an Aid to Rapid DNA Sequencing," <i>J. Mol. Biol.</i> , 143, pp. 161-178, 1980. ✓
	C25	Schreier and Cortese, "A Fast and Simple Method for Sequencing DNA Cloned in the Single-stranded Bacteriophage M13," <i>J. Mol. Biol.</i> , 129, pp. 169-172, 1979. ✓
	C26	Schulhof et al., "The Final Deprotection Step in Oligonucleotide Synthesis is Reduced to a Mild and Rapid Ammonia Treatment by Using Labile Base-protecting Groups," <i>Nucleic Acids Research</i> , 15 (2), pp. 397-416, 1987. ✓
	C27	Smith et al., "Fluorescence Detection in Automated DNA Sequence Analysis," <i>Nature</i> , 321, pp. 674-679, 1986. ✓
	C28	Smith et al., "The Synthesis of Oligonucleotides Containing an Aliphatic Amino Group at the 5' Terminus: Synthesis of Fluorescent DNA Primers for Use in DNA Sequence Analysis," <i>Nucleic Acids Research</i> , 13 (7), pp. 2399-2412, 1985. ✓

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Y0 ↓	A21	5 2 1 0 0 1 5	5/11/93	Gelfand et al.			
	A22	5 2 3 1 1 9 1	7/27/93	Woo et al.			
	A23	5 2 4 1 0 6 0	8/31/93	Engelhardt et al.			
	A24	5 3 2 8 8 2 4	7/12/94	Ward et al.			
	A25	5 3 7 1 2 4 1	12/6/94	Brush			
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Y0 ↓	C29	Theisen et al., "Fluorescent Dye Phosphoramidite Labelling of Oligonucleotides," <i>Nucleic Acids Symposium Series</i> , 27, pp. 99-100, 1992. ✓					
	C30	Theisen et al., "Fluorescent Dye Phosphoramidite Labelling of Oligonucleotides," <i>Tetrahedron Letters</i> , 33 (35), pp. 5033-5036, 1992. ✓					
	C31	Tyagi and Kramer, "Molecular Beacons: Probes that Fluoresce Upon Hybridization," <i>Nature Biotechnology</i> , 14, pp. 303-308, 1996. ✓					
	C32	Tyagi et al., "Multicolor Molecular Beacons for Allele Discrimination," <i>Nature Biotechnology</i> , 16, pp. 49-53, 1998. ✓					
	C33	Walker et al., "Isothermal <i>in vitro</i> Amplification of DNA by a Restriction Enzyme/DNA Polymerase System," <i>Proc. Natl. Acad. Sci. USA</i> , 89, pp. 392-396, 1992. ✓					
	C34	Walker et al., "Strand Displacement Amplification - an Isothermal, <i>in vitro</i> , DNA Amplification Technique," <i>Nucleic Acids Research</i> , 20 (7), pp. 1691-1696, 1992. ✓					
	C35	Yu et al., "Cyanine Dye dUTP Analogs for Enzymatic Labelling of DNA Probes," <i>Nucleic Acids Research</i> , 22 (15), pp. 3226-3232, 1994. ✓					
	C36	Langer et al., "Enzymatic Synthesis of Biotin-labeled Polynucleotides: Novel Nucleic Acid Affinity Probes," <i>Proc. Natl. Acad. Sci. USA</i> , 78 (11), pp. 6633-6637, 1981. ✓					
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Yo	A26	5 4 4 2 0 4 5	8/15/95	Haugland et al.		
	A27	5 4 4 9 7 6 7	9/12/95	Ward et al.		
	A28	5 4 7 6 9 2 8	12/19/95	Ward et al.		
	A29	5 4 8 9 6 7 8	2/6/96	Fodor et al.		
	A30	5 6 9 8 4 1 1	12/16/97	Lucas et al.		

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Yo	C37	Acrös Organics, product list and information on Rhodamine-based compound, 1995-1996 Catalog, pp. 1513-1515.
	C38	Amersham Pharmacia Biotech, "Fluorescent Nucleotides," Catalogue '98, p. 127, 1997/1998.
	C39	Boehringer Mannheim, "Nucleotides for Non-radioactive Labeling," 1997 Biochemicals Catalog, pp. 90-93, 1997.
	C40	The Society of Dyers and Colourists, entries re xanthenes as relates to rhodamines and rhodols, Colour Index, 3 rd Edition, pp. 64 and 4419-4430, 1971.
	C41	Life Technologies, GIBCO BRL Products & Reference Guide, pp. 17-2 through 17-5, 1997/1998.
	C42	PE Biosystems, "User Bulletin: ABI 392/4 Nucleic Acid Synthesizers," re Synthesis and Purification of Fluorescently Labeled Oligonucleotides Using Dye Phosphoramidites (User Bulletin No. 78), World Wide Web site at http://www2.perkin-elmer.com/ab/techsupp/doclib/nasynth/multi/ub/html/UB78.html , 8 pages, 1998.
	C43	PE Biosystems, "DNA Synthesis FAQs" (Frequently Asked Questions), World Wide Web site at http://www2.perkin-elmer.com/ab/techsupp/dnasynfaq.html , 9 pages, 1998.

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Y0 ↓	A31	5 7 3 3 7 1 9	3/31/98 Jaffe et al.			
	A32	5 7 7 6 7 2 0	7/7/98 Jaffe et al.			
	A33	5 8 4 6 7 3 7	12/8/98 Kang			
	A34	5 0 4 7 5 1 9	9/10/91 Hobbs, Jr. et al.			
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Y0 ↓ ✓	C44	Peninsula Laboratories, Inc., Product information on "5' Labeling Products," (Cat. No. N4345), 1992. ✓				
	C45	Peninsula Laboratories, Inc., Product information on "3' Labeling Products," (Cat. No. N4340), 1991. ✓				
	C46	Peninsula Laboratories, Inc., Product information on "Modified Thymidine Labeling Products," (Cat. No. N4082), 1994. ✓				
	C47	Research Organics, Product information on rhodamines, pp. 325-329, undated. *				
	C48	Glen Research, "Rhodamine Labelling," from 1998 Catalog (Products for DNA Research), p. 39, 1998. ✓				
	C49	"New Fluorescent Reagents - TAMRA-dT, DABCYL-dT," <i>The Glen Report</i> (company bulletin of Glen Research), 11 (1), p. 5, July 1998. ✓				
	C50	Venkataraman, K., "Chapter XXIV: Xanthene and Acridine Dyes," <i>The Chemistry of Synthetic Dyes</i> , 2, Academic Press, NY, pp. 740-760, 1952. ✓				
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